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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re application of:

Campbell, K.H.S.

Appl. No. 09/600,130

Filed: July 12, 2000

For: **Double Nuclear Transfer Method  
and Results Thereof**

Confirmation No. 8898

Art Unit: 1642

Examiner: *To be assigned*

Atty. Docket: 1966.0010001/EKS/BJD

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KJ  
11-1-01  
attachment

**Information Disclosure Statement**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

In accordance with 37 C.F.R. § 1.98(a)(3), Applicants' undersigned representative submits the following, in regards to non-English language documents AM3 cited on Form PTO 1449:

Document AM3, WIPO Publication No. WO 98/06834, is in the German language. This document appears to relate to the use of embryonic stem cells in producing transgenic animals with defined genetic traits. An abstract for WO 98/06834 in the English language, obtained from Derwent World Patents Index, is included as Document AR25.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036. A duplicate copy of this pleading is enclosed.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Brian J. Del Buono  
Attorney for Applicant  
Registration No. 42,473

Date: Oct. 25, 2001

1100 New York Avenue, N.W.  
Suite 600  
Washington, D.C. 20005-3934  
(202) 371-2600

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STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

ATTORNEYS AT LAW

1115 NEW YORK AVENUE, N.W. • WASHINGTON, D.C. 20005-3934

PHONE: (202) 371-2600 • FACSIMILE: (202) 371-2540 • www.skgf.com

ROBERT GREENE STERN  
EDWARD J. KESSLER  
JORGE A. GOLDSTEIN  
SAMUEL L. FOX\*\*\*  
DAVID K.S. CORNWELL  
ROBERT W. ESMOND  
TRACY-GENE G. DURKIN  
MICHELE A. CIMBALA  
MICHAEL B. RAY  
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JOHN M. COVERT  
JANEA E. ALCORN  
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JEFFREY T. HELVEY\*  
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PATRICK D. O'BRIEN  
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DUSTIN T. JOHNSON\*\*  
MATTHEW J. DOWD\*\*  
TIMOTHY M. SPEER\*\*  
AARON L. SCHWATZ\*\*

\*LIMITED TO MATTERS  
AND PROCEEDINGS BEFORE  
FEDERAL COURTS & AGENCIES  
\*\*REGISTERED PATENT AGENT  
\*\*\*SENIOR COUNSEL

October 24, 2001

WRITER'S DIRECT NUMBER:  
202) 789-5525

INTERNET ADDRESS:  
BRIAND@SKGF.COM

Commissioner for Patents  
Washington, D.C. 20231

Re: U.S. Utility Patent Application  
Appl. No. 09/600,130; § 371 Date: May 14, 2001  
For: **Double Nuclear Transfer Method and Results Thereof**  
Inventor: CAMPBELL, K.H.S.  
Our Ref: 1966.0010001/EKS/BJD/FRC

Sir:

Transmitted herewith for appropriate action are the following documents:

1. Information Disclosure Statement;
2. Listing of the cited documents on Form PTO-1449 (25 sheets);
3. A copy of each of the ninety-nine (99) cited documents (AA1, AB1, AL1, AM1, AN1, AO1, AP1, AR1, AS1, AT1, AL2, AM2, AN2, AO2, AP2, AR2, AS2, AT2, AL3, AM3, AN3, AO3, AP3, AR3, AS3, AT3, AL4, AM4, AN4, AO4, AP4, AR4, AS4, AT4, AL5, AM5, AR5, AS5, AT5, AR6, AS6, AT6, AR7, AS7, AT7, AR8, AS8, AT8, AR9, AS9, AT9, AR10, AS10, AT10, AR11, AS11, AT11, AR12, AS12, AT12, AR13, AS13, AT13, AR14, AS14, AT14, AR15, AS15, AT15, AR16, AS16, AT16, AR17, AS17, AT17, AR18, AS18, AT18, AR19, AS19, AT19, AR20, AS20, AT20, AR21, AS21, AT21, AR22, AS22, AT22, AR23, AS23, AT23, AR24, AS24, AT24, AR25, AS25, and AT25) on Form PTO-1449; and
4. Return Postcard.

Commissioner for Patents  
October 24, 2001  
Page 2

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036. A duplicate copy of this letter is enclosed.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

A handwritten signature in black ink, appearing to read "Brian J. Del Buono", with a stylized flourish at the end.

Brian J. Del Buono  
Attorney for Applicant  
Registration No. 42,473

BJD/FRC/pcd  
Enclosures

FORM PTO-1449  INFORMATION DISCLOSURE STATEMENT				ATTY. DOCKET NO. 1966.0010001/EKS/BJD		APPLICATION NO. 09/600,130	
				APPLICANT Campbell, K.H.S.			
				FILING DATE July 12, 2000		GROUP 1642	

  

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA1	5,487,992	01/30/1996	Capecchi <i>et al.</i>	435	172.3	06/28/1993
	AB1	5,945,577	08/31/1999	Stice <i>et al.</i>	800	24	01/10/1997
	AC1						
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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL1	WO 91/01140	02/07/1991	WIPO			Yes No
	AM1	WO 94/24274	10/27/1994	WIPO			Yes No
	AN1	WO 94/24301	10/27/1994	WIPO			Yes No
	AO1	EP 0 633 314 A1	01/11/1995	Europe			Yes No
	AP1	WO 95/20042	07/27/1995	WIPO			Yes No

  

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
	AR	1	Arbonés, M.L., <i>et al.</i> , "Gene targeting in normal somatic cells: inactivation of the interferon-γ receptor in myoblasts," <i>Nat. Genet.</i> 6:90-97, Macmillan Magazines Ltd (1994).
	AS	1	Bertling, W.M., <i>et al.</i> , "Use of Liposomes, Viral Capsids, and Nanoparticles as DNA Carriers," <i>Biotechnol. Appl. Biochem.</i> 13:390-405, Academic Press, Inc. (1991).
	AT	1	Brandon, E.P., <i>et al.</i> , "Targeting the mouse genome: a compendium of knockouts (part I)," <i>Curr. Biol.</i> 5:625-634, Current Biology Ltd. (1995).

  

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL2	WO 96/07732	03/14/1996	WIPO			Yes No
	AM2	WO 97/07668	03/06/1997	WIPO			Yes No
	AN2	WO 97/07669	03/06/1997	WIPO			Yes No
	AO2	EP 0 774 510 A1	05/21/1997	Europe			Yes No
	AP2	WO 97/37009	10/09/1997	WIPO			Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	2	Brandon, E.P., et al., "Targeting the mouse genome: a compendium of knockouts (part II)," <i>Curr. Biol.</i> 5:758-765, Current Biology Ltd. (1995).
AS	2	Brandon, E.P., et al., "Targeting the mouse genome: a compendium of knockouts (part III)," <i>Curr. Biol.</i> 5:873-881, Current Biology Ltd. (1995).
AT	2	Campbell, K.H.S., et al., "Sheep cloned by nuclear transfer from a cultured cell line," <i>Nature</i> 380:64-66, Macmillan Magazines Ltd. (1996).

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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL3	WO 97/49804	12/31/1997	WIPO			Yes No
	AM3	WO 98/06834	02/19/1998	WIPO			Yes No
	AN3	WO 98/07841	02/26/1998	WIPO			Yes No
	AO3	WO 98/27214	06/25/1998	WIPO			Yes No
	AP3	WO 98/30683	07/16/1998	WIPO			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	3	Cao, X., et al., "Effects of fibroblast-mediated interleukin 3 and interleukin 6 gene therapy on hematopoiesis in mice treated with 5-fluorouracil," <i>J. Mol. Med.</i> 76:782-789, Springer-Verlag (October 1998).	
AS	3	Cibelli, J.B., et al., "Transgenic bovine chimeric offspring produced from somatic cell-derived stem-like cells," <i>Nature Biotechnol.</i> 16:642-646, Macmillan Magazines Ltd. (July 1998).	
AT	3	Cibelli, J.B., et al., "Production of Germline Chimeric Bovine Fetuses From Transgenic Embryonic Stem Cells," <i>Theriogenology</i> 47:241, Elsevier Science (January 1997).	

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL4	WO 98/37183	08/27/1998	WIPO			Yes No
	AM4	WO 98/39416	09/11/1998	WIPO			Yes No
	AN4	WO 99/01163	01/14/1999	WIPO			Yes No
	AO4	WO 99/01164	01/14/1999	WIPO			Yes No
	AP4	WO 99/21415	05/06/1999	WIPO			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	4	Cibelli, J.B., et al., "Cloned Transgenic Calves Produced from Nonquiescent Fetal Fibroblasts," <i>Science</i> 280:1256-1258, American Association for the Advancement of Science (May 1998).
AS	4	Cole-Strauss, A., et al., "Correction of the Mutation Responsible for Sickle Cell Anemia by an RNA-DNA Oligonucleotide," <i>Science</i> 273:1386-1389, American Association for the Advancement of Science (1996).
AT	4	Colman, A. and Garner, I., "Transgenic Animals in Science and Industry," <i>Pharm. Forum</i> 5 (1996).

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## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL5	WO 00/42174	07/20/2000	WIPO			Yes No
	AM5	WO 01/49106 A2	07/12/2001	WIPO			Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	<u>5</u>	Deng, C. and Capecchi, M.R., "Reexamination of Gene Targeting Frequency as a Function of the Extent of Homology between the Targeting Vector and the Target Locus," <i>Mol. Cell. Biol.</i> 12:3365-3371, American Society for Microbiology (1992).
AS	<u>5</u>	Dominko, T., et al., "Bovine Oocyte as a Universal Recipient Cytoplasm in Mammalian Nuclear Transfer," <i>Theriogenology</i> 49:385, Elsevier Science (January 1998).
AT	<u>5</u>	Fiering, S., et al., "An 'in-out' using gene targeting and FLP recombinase for the functional dissection of complex DNA regulatory elements: Analysis of the $\beta$ -globin locus control region," <i>Proc. Natl. Acad. Sci. USA</i> 90:8469-8473, National Academy of Sciences (1993).

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	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	6	Finn, G.K., et al., "Homologous Plasmid Recombination Is Elevated in Immortally Transformed Cells," <i>Mol. Cell. Biol.</i> 9:4009-4017, American Society for Microbiology (1989).	
AS	6	Fulka, J., et al., "Cloning by somatic cell nuclear transfer," <i>Bioessays</i> 20:847-851, John Wiley and Sons, Inc. (October 1998).	
AT	6	Hanson, K.D. and Sedivy, J.M., "Analysis of Biological Selections for High-Efficiency Gene Targeting," <i>Mol. Cell. Biol.</i> 15:45-51, American Society for Microbiology (1995).	

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	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	Z	Hortelano, G., et al., "Persistent Delivery of Factor IX in Mice: Gene Therapy for Hemophilila Using Implantable Microcapsules," <i>Human Gene Ther.</i> 10:1281-1288, Mary Ann Liebert, Inc. (May 1999).	
AS	Z	Itzhaki, J.E., et al., "Construction by gene targeting in human cells of a 'conditional' CDC2 mutant that rereplicates its DNA," <i>Nature Genetics</i> 15:258-265, Macmillan Magazines Ltd. (1997).	
AT	Z	Johnson, R.S., et al., "Targeting of Nonexpressed Genes in Embryonic Stem Cells Via Homologous Recombination," <i>Science</i> 245:1234-1236, American Association for the Advancement of Science (1989).	

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	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	<u>8</u>	Kato, Y. and Tsunoda, Y., "Totipotency and Pluripotency of Embryonic Nuclei in the Mouse," <i>Mol. Reprod. Develop.</i> 36:276-278, Wiley-Liss, Inc. (1993).	
AS	<u>8</u>	Kato, Y., et al., "Eight Calves Cloned from Somatic Cells of a Single Adult," <i>Science</i> 282:2095-2098, American Association for the Advancement of Science (December 1998).	
AT	<u>8</u>	Kono, T., "Nuclear transfer and reprogramming," <i>Reviews Reprod.</i> 2:74-80, Society for the Study of Fertility (1997).	

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	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	2	Kren, B.T., et al., "In Vivo site-directed mutagenesis of the factor IX gene by chimeric RNA/DNA Oligonucleotides," <i>Nature Med.</i> 4:285-290, Macmillan Magazines Ltd. (March 1998).	
AS	2	Kubota, C., et al., "Six cloned calves produced from adult fibroblast cells after long-term culture," <i>Proc. Natl. Acad. Sci. USA</i> 97:990-995, National Academy of Sciences (February 2000).	
AT	2	Kwon, O.Y. and Kono, T., "Production of identical sextuplet mice by transferring metaphase nuclei from four-cell embryos," <i>Proc. Natl. Acad. Sci. USA</i> 93:13010-13013, National Academy of Sciences (1996).	

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	AP						Yes No

  

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
	AR	10	Liang, F., et al., "Chromosomal double-strand break repair in Ku80-deficient cells," <i>Proc. Natl. Acad. Sci. USA</i> 93:8929-8933, National Academy of Sciences (1996).
	AS	10	Lukacsovich, T., et al., "Repair of a specific double-strand break generated within a mammalian chromosome by yeast endonuclease I-SceI," <i>Nucl. Acids Res.</i> 22:5649-5657, Oxford University Press (1994).
	AT	10	Ma, T., et al., "Generation and Phenotype of a Transgenic Knockout Mouse Lacking the Mercurial-Insensitive Water Channel Aquaporin-4," <i>J. Clin. Invest.</i> 100:957-962, Rockefeller University Press, Inc. (1997).

  

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FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 1966.0010001/EKS/BJD	APPLICATION NO. 09/600,130
	APPLICANT Campbell, K.H.S.	
	FILING DATE July 12, 2000	GROUP 1642

## U.S. PATENT DOCUMENTS

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	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	11	McCreath, K.J., et al., "Production of gene-targeted sheep by nuclear transfer from cultured somatic cells," <i>Nature</i> 405:1066-1069, Macmillan Magazines Ltd. (July 2000).
AS	11	McWhir, J., et al., "Selective ablation of differentiated cells permits isolation of embryonic stem cell lines from murine embryos with a non-permissive genetic background," <i>Nat. Genet.</i> 14:223-226, Macmillan Magazines Ltd. (1996).
AT	11	Mitalipova, M., et al., "Bovine Oocyte Cytoplasm Reprograms Somatic Cell Nuclei from Various Mammalian Species," <i>Theriogenology</i> 49:389, Elsevier Science (January 1998).

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FORM PTO-1449

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Campbell, K.H.S.FILING DATE  
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	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	<u>12</u>	Müller-Ladner, U., et al., "Gene Transfer of Cytokine Inhibitors into Human Synovial Fibroblasts in the SCID Mouse Model," <i>Arthritis &amp; Rheum.</i> 42:490-497, John Wiley and Sons, Inc. (March 1999).
AS	<u>12</u>	Nickoloff, J.A. and Reynolds, R.J., "Transcription Stimulates Homologous Recombination in Mammalian Cells," <i>Mol. Cell. Biol.</i> 10:4837-4845, American Society for Microbiology (1990).
AT	<u>12</u>	Piedrahita, J.A., et al., "Generation of Transgenic Porcine Chimeras Using Primordial Germ Cell-Derived Colonies," <i>Biol. Reprod.</i> 58:1321-1329, Society for the Study of Reproduction (May 1998).

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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	13	Porter, A.C.G. and Dallman, M.J., "Gene Targetting. Techniques and Applications to Transplantation," <i>Transplantation</i> 64:1227-1235, Williams and Wilkins (1997).	
AS	13	Prather, R.S., et al., "Nuclear Transplantation in Early Pig Embryos," <i>Biol. Reprod.</i> 41:414-418, Society for the Study of Reproduction (1989).	
AT	13	Prather, R.S. and First, N.L., "Cloning embryos by nuclear transfer," <i>J. Reprod. Fert.</i> 41 suppl.:125-134, Society for the Study of Fertility (1990).	

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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	<u>14</u>	Ramírez-Solis, R. and Bradley, A., "Advances in the use of embryonic stem cell technology," <i>Curr. Opin. Biol. Biotechnol.</i> 5:528-533, Current Biology Ltd. (1994).	
AS	<u>14</u>	Régulier, E., <i>et al.</i> , "Continuous delivery of human and mouse erythropoietin in mice by genetically engineered polymer encapsulated myoblasts," <i>Gene Ther.</i> 5:1014-1022, Stockton Press (August 1998).	
AT	<u>14</u>	Ross, M.E., <i>et al.</i> , "Identification of a Functional Glucocorticoid Response Element in the Phenylethanolamine N-Methyltransferase Promoter Using Fusion Genes Introduced into Chromatin Cells in Primary Culture," <i>J. Neurosci.</i> 10:520-530, Society for Neuroscience (1990).	

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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	15	Russell, D.W. and Hirata, R.K., "Human gene targeting by viral vectors," <i>Nat. Genet.</i> 18:325-330, Macmillan Magazines Ltd. (April 1998).	
AS	15	Sargent, R.G., et al., "Repair of Site-Specific Double-Strand Breaks in a Mammalian Chromosome by Homologous and Illegitimate Recombination," <i>Mol. Cell. Biol.</i> 17:267-277, American Society for Microbiology (1997).	
AT	15	Scheerer, J.B. and Adair, G.M., "Homology Dependence of Targeted Recombination at the Chinese Hamster APRT Locus," <i>Mol. Cell. Biol.</i> 14:6663-6673, American Society for Microbiology (1994).	

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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
	AR	<u>16</u>	Schnieke, A.E., et al., "Human Factor IX Transgenic Sheep Produced by Transfer of Nuclei from Transfected Fetal Fibroblasts," <i>Science</i> 278:2130-2133, American Association for the Advancement of Science (1997).
	AS	<u>16</u>	Sedivy, J.M. and Dutriaux, A., "Gene targeting and somatic cell genetics: a rebirth or a coming of age?" <i>Trends Genet.</i> 15:88-90, Elsevier Science (March 1999).
	AT	<u>16</u>	Shesely, E.G., et al., "Correction of a human $\beta^s$ -globin gene by gene targeting," <i>Proc. Natl. Acad. Sci. USA</i> 88:4294-4298, National Academy of Sciences (1991).

  

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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	<u>17</u>	Shim, H., et al., "Isolation of Pluripotent Stem Cells from Cultured Porcine Primordial Germ Cells," <i>Biol. Reprod.</i> 57:1089-1095, Society for the Study of Reproduction (1997).	
AS	<u>17</u>	Smith, A., "Cell therapy: In search of pluripotency," <i>Curr. Biol.</i> 8:R802-R804, Current Biology Ltd. (November 1998).	
AT	<u>17</u>	Smithies, O., et al., "Insertion of DNA sequences into the human chromosomal $\beta$ -globin locus by homologous recombination," <i>Nature</i> 317:230-234, Macmillan Magazines Ltd. (1985).	

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	AN						Yes No
	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	18	Stacey, A., <i>et al.</i> , "Use of Double-Replacement Gene Targeting to Replace the Murine $\alpha$ -lactalbumin Gene with Its Human Counterpart in Embryonic Stem Cells and Mice," <i>Mol. Cell. Biol.</i> 14:1009-1016, American Society for Microbiology (1994).
AS	18	Stacey, A., <i>et al.</i> , "Lactation is disrupted by $\alpha$ -lactalbumin deficiency and can be restored by human $\alpha$ -lactalbumin gene replacement in mice," <i>Proc. Natl. Acad. Sci. USA</i> 92:2835-2839, National Academy of Sciences (1995).
AT	18	Stewart, C.L., <i>et al.</i> , "Stem Cells from Primordial Germ Cells Can Reenter the Germ Line," <i>Dev. Biol.</i> 161:626-628, Academic Press, Inc. (1994).

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	AM						Yes No
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	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	19	Stice, S.L., et al., "Cloning: New Breakthroughs Leading to Commercial Opportunities," <i>Theriogenology</i> 49:129-138, Elsevier Science (January 1998).	
AS	19	Stinnakre, M.G., et al., "Creation and phenotypic analysis of $\alpha$ -lactalbumin-deficient mice," <i>Proc. Natl. Acad. Sci. USA</i> 91:6544-6548, National Academy of Sciences (1994).	
AT	19	Strauss, M., "The site-specific correction of genetic defects," <i>Nature Med.</i> 4:274-275, Macmillan Magazines Ltd. (March 1998).	

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	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	20	Suraokar, M. and Bradley, A., "New and Views. Targeting Sheep, " <i>Nature</i> 405:1004-1005, Macmillan Magazines Ltd. (June 2000).	
AS	20	Te Riele, H., <i>et al.</i> , "Highly efficient gene targeting in embryonic stem cells through homologous recombination with isogenic DNA constructs," <i>Proc. Natl. Acad. Sci. USA</i> 89:5128-5132, National Academy of Sciences (1992).	
AT	20	Thyagarajan, B., <i>et al.</i> , "The effect of target site transcription on gene targeting in human cells <i>in vitro</i> ," <i>Nucl. Acids Res.</i> 23:2784-2790, Oxford University Press (1995).	

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	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	21	Thyagarajan, B., et al., "Characterization of homologous DNA recombination activity in normal and immortal mammalian cells," <i>Nucl. Acids Res.</i> 24:4084-4091, Oxford University Press (1996).	
AS	21	Trounson, A. and Pera, M., "Potential benefits of cell cloning for human medicine," <i>Reprod. Fertil. Dev.</i> 10:121-125, CSIRO Publishing (January 1998).	
AT	21	Vignon, X., et al., "Development of Bovine Nuclear Transfer Embryos Reconstituted with Quiescent and Proliferative Skin Fibroblasts," <i>Theriogenology</i> 51:216, Elsevier Science (January 1999).	

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	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
AR	<u>22</u>	Wakayama, T., <i>et al.</i> , "Full-term development of mice from enucleated oocytes injected with cumulus cell nuclei," <i>Nature</i> 394:369-374, Macmillan Magazines Ltd. (July 1998).	
AS	<u>22</u>	Wells, D.N., <i>et al.</i> , "The Use of Adult Somatic Cell Nuclear Transfer to Preserve the Last Surviving Cow of the Enderby Island Cattle Breed," <i>Theriogenology</i> 51:217, Elsevier Science (January 1999).	
AT	<u>22</u>	Wheeler, M.B., "Development and Validation of Swine Embryonic Stem Cells: a Review," <i>Reprod. Fertil. Dev.</i> 6:563-568, CSIRO Publishing (1994).	

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	AR	<u>23</u>	Wilmot, I., et al., "Viable offspring derived from fetal and adult mammalian cells," <i>Nature</i> 385:810-813 (1997).
	AS	<u>23</u>	Wolf, E., et al., "Nuclear transfer in mammals: Recent developments and future perspectives," <i>J. Biotech.</i> 65:99-110, Elsevier Science (October 1998).
	AT	<u>23</u>	Wu, H., et al., "Double replacement: Strategy for efficient introduction of subtle mutations into the murine <i>Colla-1</i> gene by homologous recombination in embryonic stem cells," <i>Proc. Natl. Acad. Sci. USA</i> 91:2819-2823, National Academy of Sciences (1994).

  

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	AR	<u>24</u>	Yáñez, R.J. and Porter, A.C.G., "Therapeutic gene targeting," <i>Gene Ther.</i> 5:149-159, Stockton Press (February 1998).
	AS	<u>24</u>	Zakhartchenko, V., et al., "Nuclear Transfer in the Bovine Embryo: Developmental Potential of Cultured Adult Cells," <i>Theriogenology</i> 51:218, Elsevier Science (January 1999).
	AT	<u>24</u>	Zhen, L., et al., "Gene targeting of X chromosome-linked chronic granulomatous disease locus in a human myeloid leukemia cell line and rescue by expression of recombinant gp91 <sup>phox</sup> ," <i>Proc. Natl. Acad. Sci. USA</i> 90:9832-9836, National Academy of Sciences (1993).

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## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	<u>25</u>	Dialog File 351, Accession No. 11714391, Derwent WPI English language abstract for WO 98/06834 (Document AM3).
AS	<u>25</u>	Pending Non-Provisional United States Patent Application No. 09/475,674, Colman <i>et al.</i> , filed December 30, 1998.
AT	<u>25</u>	Pending Non-Provisional United States Patent Application No. 09/614,864, Colman <i>et al.</i> , filed July 12, 2000.

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.